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# AMERICAN JOURNAL OF PHOTOGRAPHY

AN ILLUSTRATED MONTHLY  
DEVOTED TO PHOTOGRAPHY  
IN ITS WIDEST SENSE

Vol. XX


AUGUST, 1900

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"Flecked with Leafy Light and Shadow"

W. H. JENNINGS

# AMERICAN JOURNAL OF PHOTOGRAPHY

AUSTIN C. LEEDS, Publisher  
JOHN BARTLETT, Editor

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VOL. XX

AUGUST, 1900

No. 236

## MEXICO THE MARVELLOUS

*The Camera Among the Smoking Snow-Capped Volcanoes of the  
Sierra Madre*

CHARLES WILLIAM MACFARLANE

[CONTINUED]



EVERY one has doubtless heard of the Mexican Greaser, or low grade Indian, as the most degraded of all human beings. I submit that a more villainous specimen is not often seen, and yet he has one redeeming virtue, for while he will murder you to get possession of a dollar, he will never fail to bury you, erect a wooden cross over your grave and murmur a prayer for the repose of your soul; meanwhile sharpening his machette for the reception of the next unwary traveller.

But from the degradation of human nature let us turn to the grandeur of the inanimate world, and as we look upon the scene we may perhaps echo the sentiment "while every prospect pleases; naught but man is vile." Here we are in full view of Chapultepec, the scene, as you may remember, of one of the most vigorous engagements of the Mexican war. I prepared to take a view, unpacking my leather satchel containing the plate holders, which for precautions sake I had enclosed in oil skin coverings. The loading of the holder was effected by introducing my hands into an opaque bag confined about the neck with a collapsable band. I was able to judge of the sensitive side by the sense of touch, thus distinguishing it from the glass side. Flexible films and the means of daylight loading were unknown at the time of my visit to Mexico, but I would still recommend the use of glass plates, despite the disadvantage of weight and liability to breakage. There is no certainty of the good quality of the film continuing during the prolonged stay in such a climate. The plates which I employed were made by Mr. John Carbutt, and as far as quality is concerned left nothing to be desired. A number of my negatives were broken through careless carrying, but fortunately the extensive collection of Mr. William H. Rau, of your city, enables me to supply almost duplicate copies of the scenes I visited.

In the foreground of this view of Chapultepec we have the aqueduct, while on the summit of the hill may be seen the sometime suburban residence of the unfortunate Maximilian. It is now the West Point of Mexico.

Rising as this hill does suddenly out of the plains, its summit commands an excellent view of the city and valley and when the atmosphere is favorable we see the snow caps beyond.

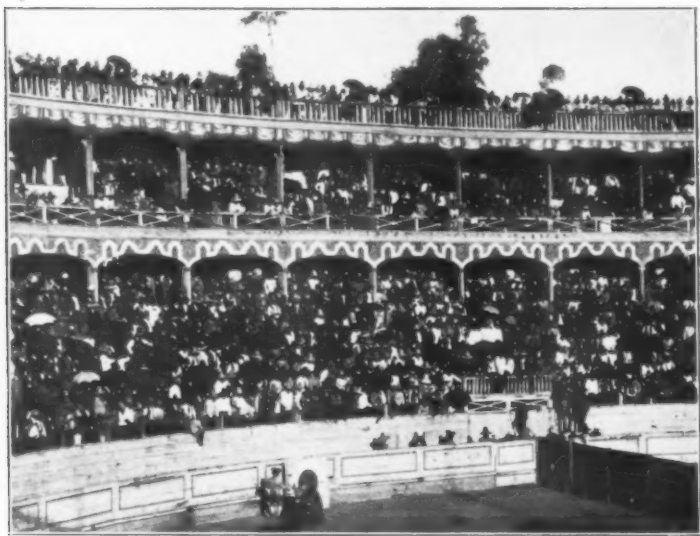
The hill is covered with a superb growth of stately cedars, calling to mind the goodly cedars of Lebanon, and festooned as they are with a white parasitic plant, they constitute one of the chief attractions of the place.

But we must hurry on if we are to reach the place where the bull-fight is to take place. I shall not inflict upon you the painful details of this most barbarous exhibition, but merely glance at the less offensive features, if any such qualification can be made, of such a sight.



Chapultepec—Aqueduct in Foreground

FROM COLLECTION OF  
WM. H. RAU



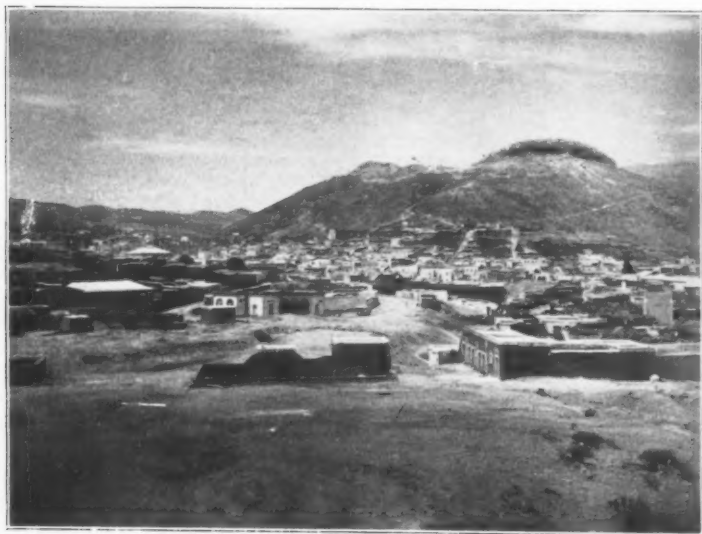
Bull Fight—Caprilla Hunting Cover

FROM COLLECTION OF  
WM. H. RAU



On the La Vega Canal, Mexico—Vegetable Boats

FROM COLLECTION OF  
WM. H. RAU



Bufo and Chapel los Remedios—Suburbs, City of Mexico

FROM COLLECTION OF  
WM. H. RAU



I took a few snap-shot views, the arena being well lighted. My camera was not an ordinary hand camera or kodak, and I was obliged to put up with the disadvantage of a tripod camera when held in the hand. The focus was a back movement and I was not provided with a finder to locate the image upon the ground glass. However, I succeeded in keeping the instrument level, and with my hand upon the bulb of the shutter I waited the proper instant.

When the bull first enters the arena he is met by the Picadore. These gentlemen of the ring are mounted and armed with lances, which were not very formidable looking, however, the blade being not more than three inches long. Its purpose is rather to enrage the poor animal than to do him any serious injury. When the bull has by this prodding been thoroughly enraged, the Banderillo appears on foot armed with nothing but a red cloth, trusting to his marvellous agility to avoid any thrust from the bull.

Flaunting this red flag in the bull's face, it naturally turns and savagely charges at the new foe, who barely escapes by jumping nimbly aside. One realizes the aptness of the phrase "bull-headed," since the bull, ignoring the fact that the man is no longer in front, still continues his futile attacks on the red cloth. Sometimes, when his judgment is not entirely lost through insane rage, the bull will dart aside at the real adversary, and the Banderillo is compelled to quickly retreat behind the broad screens placed at intervals around the arena.

What appears to be bouquets sticking in the flanks of the bull, are festoons of colored papers fastened to a stick, on the end of which is a sharp iron barb. The great feat of the Banderillo is to plunge one or more of these bouquets into the neck or shoulders of the beast as it passes by him in its mad rush.

When the judge considers that enough of this inhuman sport has been given to gratify the delight of the spectators he blows a bugle and the Matadore appears on the scene. He is the star performer of the show.

He too carries a red flag, but is armed with a long sword about which the flag is sheathed. Flaunting the flag in the bull's face he induces him to rush precipitously at him, but watches his opportunity and as the animal passes him steps

aside with lightning-like quickness, and at the same time thrusts his sword into the neck of the poor creature.

While the beast is tottering to his fall the Matadore turns with all the air of a conqueror to acknowledge the plaudits of the spectators.

Strange to say, we beheld there fair refined faces of women who applauded to the echo any good pass, careless alike whether horse, bull or man was the victim. Surely, as Shakespeare says, "There is no art to read the mind's discernment in the face." Saddest of all to tell these refined faces were the faces of American girls.

But let us leave this relic of Middle Age barbarity and return to the plaza. We have time ere sundown to reach the celebrated floating islands, the Chinampas. As we pass along in our car we reach that vestige of the Ancient Venice of America, the Vega Canal, where are congregated the market boats bringing vegetables to town.

The somberos or broad rimmed hats are conspicuous, while in the foreground you see the half shawl half scarf, called a serape.

Further on we come to a place where pleasure boats congregate. Securing one we make our way slowly through the motley craft about us. By and by the boats become fewer in number, and we find ourselves gliding along in the lazy haze enjoying the calm beauty of an Indian summer.

Leaving the main canal we come suddenly upon a scene which naught but a snap-shot would have secured—a primitive shower bath. An Indian mother dipping water out of the canal and pouring it upon the child; those around finding much amusement at the vigorous protests of the little one.

These islands were originally formed by masses of drift-wood collecting along the shores of the lake. By and by soil collected on them and plants and trees sprung up. But here we are at last in the midst of that dream of Montezuma's, the Chinampas or floating gardens. One cannot but feel the strange beauty of the scene with its dark trail of the mountains and towering above all the great snow caps.

What a scene this must have been in the brave days of Aztec glory; here in the cool even-tide doubtless gay courtiers and laughing maidens of that old empire, might have been



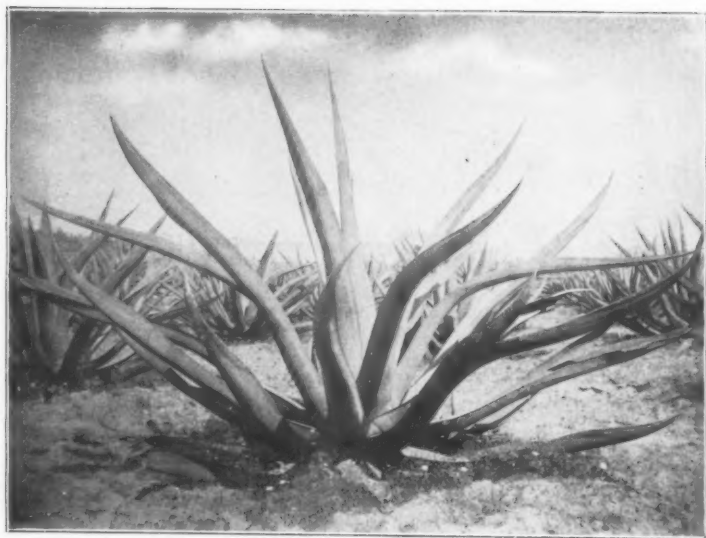
Pyramid of the Sun—City of Mexico

FROM COLLECTION OF  
WM. H. RAU



Mexican Donkey Boys

FROM COLLECTION OF  
WM. H. RAU



Pulque or Maguey Plant—Atoto, Mexico

FROM COLLECTION OF  
WM. H. RAU



A Tropical Avenue—Orizaba, Mexico

FROM COLLECTION OF  
WM. H. RAU

seen robed in garments whose bright colors vied with the flowers around them. But the glory of the fashion thereof is fast passing away. Its people conquered, its flowers rarely seen, its canals choked or overgrown with stagnant ooze. Its lakes contracting their margins as the mountains round about are denuded of their timber until islands which once floated are lodged to float no more; and with our minds busied with these thoughts of departed glory, we turn our eyes once more towards the city, and as we enter the now moonlit main canal, from a distant boat the strains of a bandero creep to our ears, recalling the lines in the Merchant of Venice:

"How sweet the moonlight sleeps upon the bank—  
Here will we sit and let the sounds of music  
Creep in our ear."

The next morning we take the car passing out of the N. W. corner of the plaza, along the west wall of the Cathedral, bound for the famous shrine of Guadalupe. There is a legend connected with this shrine, embodied in a poem of over two hundred lines. I shall spare you the recital. The gist of the story is that a poor Indian, Juan Diego, while working on the mountain just back of the spot now occupied by the Cathedral, was visited by the Virgin seated on a rainbow, and surrounded by nimbus, who declared herself to him, and informed him that she wanted a great church erected there; and as her instrument he should repair at once to the Bishop of the City of Mexico and relate the vision. But the bishop was incredulous, and so the Virgin again manifested herself and bade Juan pick some flowers from the barren hillside and to carry them to the bishop. At the sight of these as well as the miracle displayed in the imprinting of the image of the blessed mother on the garments of the poor Indian, the bishop acknowledged his want of faith, fell on his knees, and began the building of the Cathedral.

Though not so large as the Cathedral of the City of Mexico, it is of goodly proportions. Our interest is centered in the silver altar-railing, which is about three feet high, and leads to the choir in the rear up to and around the main altar. It gives an idea of the immense wealth which is lavished upon the churches in Mexico. There is another church, at Morrelia, where not only the altar rail but the doors of the main altar

are of solid silver. The Cathedral of the City of Mexico had also this lavishness of silver ornament until the good judgment of Juarez applied the metal to purposes of greater general utility. Juarez is of pure Indian blood, and this leads us to remark that though we have shown the degradation of the native race, yet we have reason to believe that in it will be found the leaven which may yet redeem Mexico. There is a persistency which may not be ignored in a civilization that after three hundred years of Spanish dominion yet retains the old language in the very streets of the metropolis—a persistency which doubtless will, yes, has accomplished great things.

The church is no longer the power it once was. Even the ecclesiastical buildings have been converted into military quarters, barracks and store-houses, and the great Cathedral itself forbidden to ring the bells save at stated prescribed times.

Immediately in front of Guadalupe, passes the Vera Cruz R. R., running from the City to the Gulf.

We shall take the train, and sitting on the left hand side of the car, we shall come in full view of that which might not surprise us along the banks of the Nile, yet cannot but be strange to encounter when seen for the first time upon our own continent. I refer to the Pyramids of Teotihuacan. Here we have the Pyramid of the Sun, built of rough masses of clay, and the volcanic rock so abundant in the region. It has a base of 670 feet square and an altitude of 180 feet. Half a mile off we see another pyramid somewhat smaller called the Pyramid of the Moon.

Crude as these monuments are in structure and giving no hint of the marvellous architecture developed in Yutacan, yet we cannot behold them without the question forcing itself for consideration, whence came their builders? Some say from the banks of the Nile, reproducing the forms there so familiar; others that they were built by the lost tribes of Israel; others still maintaining that effluence of people, like the Huns which once over-ran Europe, came across the supposed isthmus which bridged the now called Behring Straits.

But so conflicting are the facts upon which these theories are built, that more careful scholars are inclined to answer the



As She Comes Down the Stairs

R. EICKEMEYER, JR. (COPYRIGHT)



On the Bay—Beach Haven, N. J.

ROBERT F. ENGLE





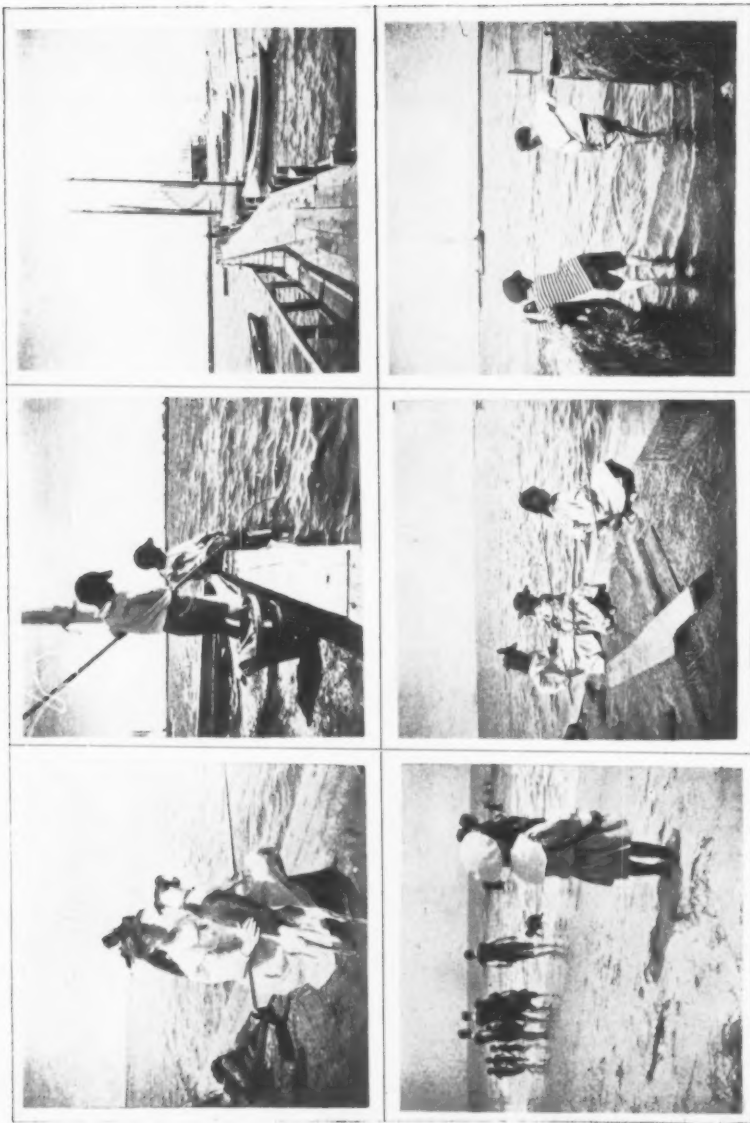
A Western New York Mountain Home

CHAS. H. CARROLL



At the Landing

CHAS. H. CARROLL



ROBERT F. ENGLE

Summer Pleasures

query, as do the Indians hereabout, "*Quen Saba*,"—who knows?

The one dark blot upon this ancient civilization which centers about Anhuac is the countenancing of human sacrifice by this remarkable people.

In the foreground of our view we have what was at one time a regular paved way leading from one pyramid to the other, the path of death, along which passed the great religious processions of priests, warriors and victims.

There is another pyramid still larger at Cholula, some distance across country, which is said to cover nearly forty acres of land, thus exceeding the space occupied by the Great Pyramid of Egypt. The form of this pyramid is not so well presented as that at Teotihuacan, since it is overgrown with rank vegetation and has had its apex leveled to erect a Christian chapel there.

A field of agave is a novel sight to the foreigner. The agave is the plant from which pulque the great national drink is made.

In the heart of the plant there is drilled a large hole about the size of an ordinary bucket which in a short time fills up with a sweet sap. This juice is collected by the native husbandman, who goes round with a long hollow gourd which is inserted into the cavity and the liquid literally sucked out and emptied into a pigskin bottle carried on the back. The collected liquor is transferred to wooden casks and left in the sun to ferment. Pulque-dulce, as is called, is regarded by the natives a nectar. When fresh, that is immediately after the first fermentation, it might pass for sweet buttermilk with a Yankee, or bonny-clabber with a Scotchman, but after ripening a couple of days, when the men here regard it as prime, it is comparable only to Limburger cheese.

In the outlying parts of the Upper Plateau, life is entirely primitive, reminding one of the scenes in the Orient, both in character of the vegetation as well as in the aspect of the inhabitants.

They have the leather bottles of the East, the sandaled feet, the wooden plough and the ox-cart with its great lumbering wheels; but entering Tera Templeda, where rain is more frequent, the whole character of the vegetation changes; instead

of the gaunt cactus which one meets in the Upper Plateau, we find foliage much like our own country.

The scenery is often superb, the road being one succession of horse-shoe curves. The train penetrates far up into the deep mountain gorges, or baroncas as they are called.

As we make our way slowly down the mountain defile, at an elevation of nearly 4000 feet, the vegetation becomes semi-tropical. What a marvellous change in a few hours,—instead of the stiff unsightly cactus and the not less unsightly mud-roofed adobes, we have the luxuriant foliage of the palm and the banana, and picturesque houses with red-tiled roofs and long over-hanging eaves. Soon we reach our destination, the town of Orizaba, which nestled as it is in a hollow of the mountains amid tropical foliage, is one of the most picturesque towns I have ever visited.

When Prospero urged the tricksty sprite Ariel to make haste, his reply was "I drink the air before me and return." And so we are once more at the Plaza Mayor in the City of Mexico, and shall take the car to Ameccameca, and from there attempt the ascent of the highest snow cap of them all—the great Popocatepetl.

Reaching the town by noon we delivered our letter to General Ochoa. Knowing the proverbial slowness of the Mexicans, I brought to bear on him all the eloquence of persuasion we were capable of, to expediate the getting together of horses and pack animals and guides for the mountain trail.

While preparations were being made we had dinner, after which we started for the sacred mount, a hill near the town covered with a grove of beautiful cedars. There is a pretty little chapel amongst the trees, the approach to which is made by a picturesque zigzag part natural path, part stairway, along which at various stopping places are shrines at which numerous penitents are kneeling at prayer.

But soon all thought of church and penitents ebbs as a nobler shrine of worship looms up before us. The clouds which had hung like a pall over the great peaks began to move, drift and thin, and Iztacci-huatl, White Woman, lady fair in all her glorious beauty stands revealed before us. The powers of the upper air made merry sport with cloud and mist, and for a moment great Popocatepetl, tall monarch of them all,

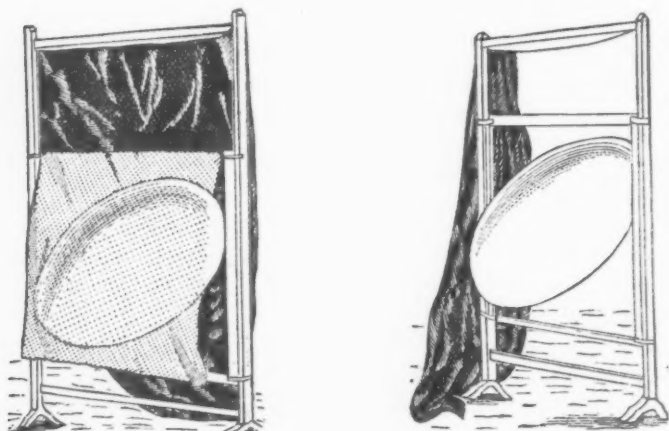
rises before us to the height, unparalleled on this continent or in Europe, of 20,000 feet above the waters of the Gulf. There its great slope terminates in the more oblique line of its crater. But soon crater and slope are lost in clouds and are seen no more that day.

We will not trouble you with any detailed account of our ride that night, for as we had feared, the sun was well down before we were started on the trail; this, by the by, is the same one along which Cortez passed on the occasion of his first visit to the valley of Anhuac. So long as there was sufficient light, we could see now and then a rude cross, set up by some foot-pad over the remains of his victim. But as we enter the forest, the last faint glimmer of day disappeared, and so riding in single file on and up through the darkness we go; a darkness now made more intense by a thick mist that settles over all. Much, I suppose, like a boy whistling in a dark cellar to keep up his courage, we had been chatting as we went along, but as the mist gave place to a chill rain conversation flagged, and for several hours hardly a sound was heard save the labored breathing of our horses, or some stone their feet had loosened and sent careening down hundreds of feet below. By and by the air becomes more eager and nipping and snow begins to fall, and just as it begins to whirl round us in good earnest the huzza of our advanced guard tells us that the Ranch, our abiding place for the night, is at hand. But be not deceived by the Mexican tendency to dignify all things with high sounding names, for this so-called Ranch, is after all but a rude shed with nearly as many boards off as on, and so affording but indifferent shelter from the winter storm that was raging about us. After thawing out our stiffened limbs, we found it was past midnight, and as we wanted to start at 4 A. M., so as to reach the summit before the clouds had risen, we were not long in rolling our blankets around us, and despite the storm without were soon fast asleep.

## CONCAVE REFLECTORS

A. P. SARGENT

**R**EFLECTORS are often very injudiciously employed. In the endeavor to illuminate the shadow-side of the head so much light is thrown upon it as to entirely obliterate all texture, to represent which, in proper subordination, should be the aim of every good photographer. The operator is not always possessed of that great aid in proper illumination, the modern slant-light, and having to



make the best use possible of the means at his command, must depend to a considerable extent upon lighting up shadows. Where the skylight is small, or where there is no skylight at all, so to say, it is of special requisition.

I am an amateur and consequently am often obliged to employ almost exclusively side light, as administered in ordinary dwelling rooms, and I am inclined to think that my experience

in the use of a certain kind of reflector may be of value to other amateurs who read your magazine ; at least I shall try to repay you for the good practical ideas and artistic hints which I have derived from the reading of the AMERICAN JOURNAL OF PHOTOGRAPHY.

The reflector which I employ I did not invent myself, I believe the inventor's or adapter's name is Griswold. The reflector is a concave one, a yard in diameter, made of sheet iron or tin, hammered into shape and afterwards planished. It turns on pivots within a frame so that it may be turned at any angle desired.

The frame carrying the reflector runs up and down like a window sash within another frame about six feet high, which is mounted on legs like a background frame. By this means the light may be thrown up or down or in any direction the case may demand. On the back of the outer frame is fixed an opaque curtain which can be drawn across the outer frame to cut off all reflection except from the reflector itself ; for in ordinary sitting-rooms where portraits are made, the reflections are often very annoying and perplexing.

But this dark curtain keeps out all except that desired to be reflected. When the light is strong it will be found necessary to screen the reflector with cheese-cloth or tarleton, or some other gauzy material. By placing the cloth over the face of the reflector the light may be beautifully modified and some pleasing effects produced by employing gauzes of different colors. When the sitter has a full round face and light hair, a child for instance, make use of a buff gauze. Greater contrast is thus secured in the negative. For dark complexions or sharply defined features, a sparseness of countenance, blue is very advantageous.

It is hardly possible to realize the aid and benefit derived from the use of this simple contrivance. I have never seen it for sale at the stock dealers, and came across the description of it in Wilson's Photo Magazine published some years ago. But anyone could construct it for himself, and those having scanty top-lights will find it invaluable.

The accompanying cuts will give better ideas of the construction than a verbal description.



## BLURRING AND TRANSPARENT COLORS FOR BACKINGS OF PLATES

H. B. LINCOLN

THE advantages of using double-coated and backed plates is generally acknowledged; but even with the excellent plates furnished by the manufacturers, one sometimes gets halation despite precautions. Blurring does make its appearance upon plates, even though well protected, and from a few experiments I have made, I have come to the conclusion that opaque colors used for backing are not always advisable, but that some of the transparent colors, strange to say, prevent halation much better.

Sometimes, if the plate is examined carefully, the opaque employed will exhibit a number of pin holes through which the light filters, thus giving a number of internal reflections which collectively accomplish their dire purpose.

Opaque coatings containing grease give continuous films, but they are exceedingly nasty to work with; but even with the best applied surface coating of opaque one does frequently get internal reflections.

With transparent colors, however, the reflections are entirely destroyed, or if there are any they are colored by the substance, and not white as reflected from opaque colors, and hence do no harm.

Aniline brown will be found very useful. Take one part of aniline brown to twenty parts of hot water and let it mix well, a little sugar or gum arabic should be added. It should be applied as a thick paste, and when spread on the back of the plate gives a good uniform surface, which is easily sponged off before developing is attempted. The aniline does not interfere (if any traces remain) with the action of the developer. Care, however, should be taken that none of the coating runs around upon the film side, where it would, of course, act injuriously. There need be no fear of this overflow if the coating is made rather thick.



## IODIDE OF MERCURY INTENSIFIERS

**W**E are aware, of course, that to some photographic purists mercurial intensification of any sort is *anathema maranatha*; but the fact remains, that mercurial salts are, and have been, since the advent of collodion photography, in constant employment for increasing the opacity of negatives that, without its aid, would not give presentable prints. It is not many years since we examined some mercurially intensified negatives, which we saw undergo the operation of intensification over forty years ago, yet they were in perfect condition. The process was the preliminary whitening by mercuric chloride, followed by a blackening with weak solution of ammonium sulphide. For many years this, with the occasional substitution of ordinary ammonia solution in lieu of the sulphide, was in common use; indeed, the early workers in collodion, when requiring a negative, perhaps, more frequently used a "converted positive" than a directly developed negative. After a while a number of other variations were introduced, preference being given to one or the other in capricious fashion. In the early days of gelatino-bromide plates recourse was often had to intensification, mostly on the old lines, till Mr. B. J. Edwards introduced a novelty in the shape of a one-solution intensifier, made by mixing mercuric chloride and potassic iodide solutions and adding "hyposulphite of soda;" a plan reduced to more exact method by Mr. Watmough Webster, who first precipitated, separated, and washed the mercuric iodide, and dissolved it in definite proportions,

Used with care, the Edwards' intensifier was a most valuable intensifying agent, and, as regards permanency, we have reason to believe excellent. We have seen negatives seven or eight years old intensified by this agent which were apparently unchanged; yet we are bound to say that we have seen a far larger number that had certainly undergone a change for the worse—the density of the image lost and a yellow stain over

all. The negatives that had stood the test of time were such as had been subjected for a brief time to a second bath of pure hypo after being intensified.

This intensifier gave a beautifully clean result, and, when freshly made, brought about the increase of opacity with little or no apparent change in the color of the image. One great advantage of a one-solution intensifier is the facility it affords for local treatment. Taking the plate after being slightly washed after fixing, we have found it a perfectly simple matter to add to the opacity of any particular region of the negative by simply applying the solution, with the finger, with a gentle rotary movement, flushing the solution away with a copious supply of water when the required effect was produced. It was better to slightly overdo the density, so that an after-treatment with hypo would clear the negative and tend to permanency of results. Negatives treated by this, or, indeed, by most mercuric intensifiers, can, if too dense, be easily reduced again by a hypo solution.

Within the last few months Messrs. Lumière and Seyewetz, to whom photographers are already greatly indebted for their published investigations of many photographic problems, have introduced a further most important modification of this intensifier. In lieu of dissolving the mercuric iodide (a brilliant scarlet powder used by painters under the name of "scarlet vermilion") in hypo, they dissolve the dry iodide in sulphite of soda solution. When well washed for not too protracted a time, the negative so treated may be looked upon almost as permanent; but, to be on the safe side, the inventors recommend that, after well washing, the plate be put in some ordinary developing solution for a short time; it is then expected to be absolutely permanent. The formula is simple—it consists merely in dissolving one per cent. of the red mercuric iodide in a ten per cent. aqueous solution of anhydrous sulphite of soda. Whenever and wherever this formula has been introduced the anhydrous salt forms an integral part of the constituents; but if pure sulphite of the ordinary crystalline kind (so long as it is in good condition and not effloresced) be employed, it will be equally efficacious. But it must be remembered, that the anhydrous is, through the absence of water, about double the strength of the crystalline form.

We have tried the new iodide-in-sulphite intensifier, and have nothing but praise for it, and a careful study of Messrs. Lumière and Seyewetz's paper upon the cause of deterioration in negatives intensified with mercuric iodide warrants us in arriving at the conclusion that negatives intensified by this new process, with the precautions alluded to being taken, will prove to be absolutely permanent.—*British Journal of Photography*.

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## A GOOD TONING SOLUTION FOR COLLODION PAPERS

**T**AKE 50 grains of metallic gold and dissolve in a mixture of nitric and hydrochloric acid, composed of  $7\frac{1}{2}$  drachms of hydrochloric acid and  $1\frac{1}{2}$  drachms of nitric acid; when the gold is dissolved add 18 grains of carbonate of potassa (cryst.), filter the solution and crystalize slowly over a spirit lamp. Watch carefully and stir constantly until dry and all the acid driven off. The operation should be performed where the fumes will not effect the operator. Dissolve the crystals in water (1 drachm of water for every grain of gold).

To make the toning bath. Take a small lump of chalk, about 20 grains, and add to it 20 ounces of water and a little of the gold solution, shaking up well. Use it during hot weather two hours after making; longer in cold weather; three or four hours.

. Filter off into the toning dish keeping the chalk back in the bottle. After toning return the solution to the bottle and put it in the sun to favor the precipitation of the silver taken up from the toning operation. Add gold as may be found necessary from day to day, though the bath will work well for a long time, but it is poor economy to be too saving with the gold. After a time the chalk gets black, it should then be changed.

—A SUBSCRIBER.

## ADAPTING DEVELOPER TO EXPOSURE

**I**T may in a general sense be true that in a multitude of counsellors there is wisdom, but the proverb is hardly specifically applicable to photographic development.

When one is "in the woods" as to his exposure he looks in vain for the kind of counsel he earnestly desires. It is useless to refer him to Messrs. Hurter and Driffield's experiments or to tell him the only *modus operandi* is the tentative method of leading-string development. It is with fear and trembling that he pours the fluid over his plate and scans with eager eye the evolution of the image, since he is well aware from past experience that the dilution of developer with the small increments which the tentative method recommends very frequently is the worst possible mode of dealing with that special plate under consideration. The candid avowal of every photographer who has dealt with doubtful exposures, I think, would be that "monkeying" with the developer, trying this and that agent or chemical to try to make the plate turn out all right, gives only occasionally a decent result.

To get a good negative one must know the time of exposure to properly atune the developer to it, and yet the average amateur thinks he may indulge in a limited degree to latitude of exposure, imagining that over or under exposure may be easily compensated for by development. My experience tends to show me that there is very little latitude in exposure allowable. A careful examination of a very slightly over-timed plate will show a slight solarisation in the high lights, and to a keen eye a veiling over of the shadows and half tones. A careless worker might think it straining a point to insist on absolute freedom from blur in the high lights, but personally I am always dissatisfied with even a slightly over-exposed plate. The developer cannot eliminate solarisation, and even though it may be reduced by chemical reagents I think I am entitled to the holding of my opinion that such a negative is not equal to a properly exposed and properly developed one.

The professional photographers are so well acquainted with

the character of their illumination and adaptation of the developer that they are enabled to turn out work of uniform excellence. Their experience may not be as great as the amateur, and hence the reason why the professional contributes so little to the advancement of photography. He meets with no pitfalls in practice, makes no discoveries and feels none of the raptures the amateur has in "monkeying" with the developer and in getting the best possible results from the most improperly exposed plates. The professional looks for twelve good negatives from twelve good plates. The amateur is satisfied with two, and the loss from the failure with the other ten is more than balanced by the experience gained in wrestling with the untimely ones.

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## KACHIN DEVELOPER

**I**N the July Journal Mr. Gibson asks, why not use Kachin? Kachin certainly is an excellent developer in many respects, especially in the energy and uniformity of its action, but one prefers not using it (despite its freedom from staining the plate) during the continuance of our torrid weather. The necessity of using caustic alkali is a great drawback.

If its virtues could only be used in connection with ordinary carbonates as accelerators, it would be "a consummation devoutly to be wished" for. I cannot, however, agree with Mr. Gibson as to the benefit of using potassium bromide as a restrainer—I found it positively inert. The best restrainer is Borax, five per cent. Kachin is, however, an ideal developer for Bromide, Velox, Vinco, Kloro and other papers of the kind, giving rich brilliant blacks tending to warmth, and clear beautiful whites, also sepia and red tones.

## THE AVOIDANCE OF GRANULARITY IN COPYING

**I**N copying a photograph or other picture on paper in which the grain or texture of the paper is distinctly visible there are certain well-recognized methods whereby the grain or other rugosities may be made to disappear in the copy when this is produced by means of photography, even the very coarsest samples of drawing or water-color papers being amenable to certain conditions of working.

Any one who for the first time attempts to copy subjects of this kind may very possibly fail to produce a result that does not show more or less strong resemblances to the texture of the paper picture he had copied, and this notwithstanding that he had followed closely the instructions given by practical workers as how best to avoid this granularity in a finished print, and, as a natural consequence, the writers are blamed for misleading novices in this particular branch of work. But why should such failures occur? This question is easily answered. As a rule these failures do not arise from any actual error on the part of the operator in his *modus operandi* of copying, or from his having followed out erroneous instructions, but more frequently from the simple fact that mistakes are made in differentiation between what is actually the grain of texture of the paper and that of a surface that is in a damaged condition. A simple example may be cited in explanation of the difference between two such cases. Take, for instance, the case where a photographer is called upon to make an enlargement from, say, a *carte-de-visite* size of photograph, executed probably thirty years ago (and this is by no means an uncommon case). Such pictures will almost certainly be found printed on a sample of albumenised paper known at that distant date as "single albumenised," and, according to the chance treatment the photograph may have received all down the long term of years since it was produced, will be handed to the photographer in a greater or less degree of

imperfection by reason of the amount of carelessness displayed by the owner of it in not protecting it from damage. This deterioration will be apparent in more ways than one. In the first case, a distinct want of brilliancy in the surface of the paper is almost sure to be noticeable, and very probably also the photograph may be more or less discolored through the lapse of years since it was taken.

To an ordinary observer these two defects may appear all that is wrong with the picture; but to a practical worker, who has learned much from having to deal with the copying of subjects of this description, there is a third, and more serious, defect in the photograph, more serious in so far as it affects the operation of copying in a marked degree. This defect assumes the form of having the skin or surface of the sample of single albumenised paper more or less abraded, a condition which makes it very difficult to deal with in copying by means of photography. Nor is this to be wondered at when it is considered what an amount of attrition a paper photograph receives at the hands of people during its lifetime. Very probably every time it has been taken in the hand for examination a finger will have been passed over its surface by thoughtless people, who never for a moment dream of the damage they are doing a picture, and this continual attrition or rubbing of the surface of a photograph soon becomes apparent to the practised eye of a clever operator, who can detect in a moment what others never think of as a defect or deterioration, and hence, when these pictures reach the hands of a photographer for the purpose of copying and enlarging, we hear such remarks made as "That's a bad one."

Pictures, and photographs especially that have suffered by reason of attrition, are not easy to copy by means of photography, and it is just such examples as these that give rise to much disappointment and at the same time discontent, on the part of those who feel they have followed closely the instructions given from time to time in the columns of the photographic press by writers of experience.

It does not require much consideration on the part of a thoughtful student in photography to see at once that there is a marked difference between copying a subject in which the surface presents an appearance, and is composed in reality of



nothing but ordinary texture like a sheet of paper and that of a case or subject totally different, and which, in reality, is not, in a proper sense, texture at all, but consists of very minute and distinct contrasts composed of a partially intact amount of the original photographic image and a proportion of surface where no such original image longer exists, and which has been removed by friction. Such defects are not properly termed granularity, or, at least, if so, only in a very secondary degree. They are more properly classed as contrasts in color, and cannot be dealt with by means of photography on the same lines as when treating an ordinary case of granularity.

In contrast to this, let another case be noted, and this time, say, an operator is called upon to photograph a wash drawing, or other similar subject, contained in a sample of the roughest possible drawing paper. Here we have a case where there can be no possible doubt about the amount of texture present, and it is just about ten to one, were the novice asked which of the two subjects would copy best by means of photography without any grain being visible in the finished print, the answer would be "The *carte-de-visite* subject, certainly." To a practical worker, however, it is all the other way about, simply because he knows that, by following out certain well-known methods of procedure, texture can be easily dealt with; but not so subjects in which the apparent texture is not grain in reality, but rather a series of contrasts in color between that of the paper surface and the remaining photographic image.

The first consideration, therefore, when work of this description has to be undertaken, is to determine whether the original photographic image is intact, or whether it has suffered by friction, so that part of the image has been rubbed away, leaving the most minute portions of paper only. A fruitful source of damage to silver prints in this way arises from the careless dusting of a sitting-room in which the photographs are lying on tables, etc., as articles of ornament.

From time to time several methods have been advocated for avoiding the appearance of grain when copying photographs or paper surfaces. Among the earliest may be mentioned what for a time was looked upon as a trade secret (for old collodion-



workers kept it well up their sleeves). This method consisted in copying such subjects in varying planes of focal lengths by means of a lens through the camera, which was capable of being altered in focus by racking in and out the sensitive plate at the rear. First of all the picture was placed *in situ* in daylight, and most carefully focussed on the ground glass of the camera; an exposure of about half the necessary amount was accorded to the sensitive plate at this plane. The rack and pinion of the camera were then, after capping the lens, made to withdraw the sensitive plate to a distance very slightly beyond the true plane for the sharpest focus; at this point a brief exposure was also given to the plate, the lens capped, and the camera racked inwards to a corresponding distance in front of the plane of true focus, and a brief exposure given at this point also.

On development a perfect result will be found, providing proper attention has been bestowed upon the lighting of the picture. One thing, however, must be noted, viz.: when this method of copying is resorted to, the alterations of focal planes must be effected by means of a camera, whose rack and pinion is operated upon *in the rear*. The distance between the lens and the subject must not be tampered with in the slightest degree, and in this we have another proof of the deficiency in modern apparatus. Cameras now are made in thousands where utility is sacrificed entirely to portability: This we see in the new form of camera, in which focussing is done by altering the distance of the lens from the subject, instead of providing for its being possible both in front and rear.

Another method adopted by workers many years ago was that of interposing a thin, transparent film between the partially printed proof and the negative after the latter was in the printing frame. This method, however, was not so easily accomplished by reason of the difficulty of correctly registering the prints. Such manipulation, however, can be accomplished, provided a few simple precautions are taken when inserting the negative in the printing frame and the placing of the sensitive paper in contact with it.

In copying pictures having paper supports there is no doubt the chief item lies in properly lighting them. It is quite surprising the difference in results obtainable by varying the disposition of the picture in regard to the source of light.

This any one can prove by a few simple experiments. A strong side light will, of course, be the most unsuitable whenever it is desired to suppress grain in a photograph. The best results are certainly obtained by placing the picture *in situ* in front of the full light of a north window. A very good test object for an experiment will be found in a sheet of coarse drawing-paper. Let this be photographed with a dead side light, and then with a full front light. On comparison very striking differences will be apparent.

A photographer, however, is frequently called upon to execute work in which the greatest amount of surface rugosities is required, such as when an imitation in paper of such articles as morocco leather or crocodile skins is required. In such cases a front light would be fatal to success, and only a concentrated side light of narrow dimensions should be employed in photographing such subjects.

Exposure also forms a very important item in suppressing grain. This should be full, or verging on what may be termed over-exposure. Where the utmost amount of rugosity is desired, it should be just right, if anything erring on the side of under-exposure.

Long-focus lenses should be employed in all operations of copying, the reason for this being, that reflections are not so liable to reach the sensitive plate when they are employed as is the case with short-focus objectives.

With highly glazed gelatino-chloride papers there is no difficulty as regards grain, but sometimes trouble arises from reflections. Such samples are best dealt with a side light, seeing there is no grain and long-focus objectives will permit of any reflected light passing outside the angle of view of the lens, provided the lighting is properly looked after.

Some workers advocate the placing of scrap photographs in optical contact with the glass as a preventive of grain in copying. No doubt, holding the photographs *in situ* in this temporary manner whilst they are damp is often very convenient, and this simple plan has much to commend it, especially where the photographs have been kept in rolls. The damping keeps them nice and flat, but it is questionable if the method reduces the grain, which after all, is only overcome by correctly lighting the subject. — *The British Journal of Photography*.

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## ON POSING

THE proper posing of the figure is a topic to which less attention is given than to the lighting. We are treated to a dozen essays on the most appropriate method of illuminating the head where we have one given us about appropriate attitude of the sitter.

True, now-a-days one seldom meets with positively bad poses, even in the show cases of the village photographer, but with the majority of even the best professionals there is a sort of cut and dried method of treatment which, despite its artistic aspect, becomes monotonous and sometimes is entirely out of place and keeping with the subject treated. The copying of poses directly from the painters entitles the photographer to no credit for originality, however much he may seek to plume himself therewith, and moreover, such a practice is destructive of all individuality. Such poses, however, frequently receive undue credit and come in for a large share of commendation from convention orators, who in some cases being artists themselves, should see and point out the baldness of the invention and servility of taste.

I call to mind a picture which came in for a goodly share of approbation from the critics, which was nothing but a literal copy of John Colliers' portrait of Miss Nettie Huxley, in the Grosvenor Gallery.

I give the photographer credit for his power of perception of the characteristic pose, but here my commendation stops, and I would censure him for going to the trouble to hunt up a young lady of the same build and of similar expression of countenance, for fixing up her hair in the same tensorial style, for having a dressmaker make a garment identical in cut and texture with the one worn by the artist's model. Credit is due the photographer for knowing a good thing when he sees it, but the judges should have qualified their approbation by reminding him whence his ideas had been derived.

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Gainsborough is a prolific source for extracts, and Rossetti and the Pre-Raphaelite School are just now delightful sources of inspiration for certain soi-disant artistic photographers.

We have great admiration for Rossetti and the genuine Pre-Raphaelite School of art, and in some particulars in line with the impressionistic photographers, but we hate to see such servile and palpable imitations of even a good thing.

Now, had the imitators gone to the painter, especially Rossetti, for suggestions of graceful pose associated with the draped figure, conspicuous in his works, something might have been produced, beautiful and appropriate and at the same time perfectly original.

A careful study of the work of painters (not a few minutes before posing but by a course of rigid analysis of the means by which artistic effect is achieved) would give the photographer an insight into the principles on which the drapery should be adjusted, and by reference to nature and the demands of photography itself, a knowledge would be acquired of the true theory of posing.

We have frequently noticed how more akin photography is to sculpture than to painting. To the photographer grace of pose is generally associated with the draped figure, and in sculpture more than in painting, especially antique sculpture, he will find his best instructor and guide.

The Greeks employed clothing to decorate, not to conceal, the beauty of the human figure. They have left us not a few most excellent examples of every kind of garment in motion and at rest; some large and ample in folds, some swathed about the form, some open in texture, and others of extreme delicacy. Grace, after all, is doubtless the most agreeable quality of art. The Venus de Medici, though possessed of a more beautiful countenance than the Venus de Milo, never inspires us with the admiration which the sublime grace of the latter instantly arouses in us at the first glance and with every repeated gaze.

Grace of pose we think is generally considered paramount to and independent of beauty of countenance.

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is a natural one, grace may be seen in the exquisitely delicate flexions of the head upon the neck, in the flowing lines of the arms, the rising or falling, advancing or retiring of the shoulders, in the facility with which the body turns upon the hips and the constant muscular activity which calls forth the smooth and gradual changes which take place to preserve the equilibrium of the figure. Therefore, to preserve the requisite balance and to represent with truth and character the relative degree of muscular activity to each and all the parts, is the great test of the artist's skill, and as much the instrument of expression as the proper expression of the face itself. Chantry once made a cast from a celebrated orator of his day. He put him into an attitude at first which he thought characteristic of the man, and made the cast; but not liking the effect when done, got him to sit again, and made use of the plaster of Paris once more. He felt satisfied with the last results; but his sitter, who had become tired out with the ordeal he had gone through, as soon as it was over went and leaned upon a block of marble near by. The sagacious sculptor was so struck with the superiority of this natural pose over those into which the man had been artificially put, that he begged him, if possible, to continue in the attitude for a short time, that he might secure another impression. All the casts remain for our instruction, and the last is a proof positive, that a natural and unconstrained form is infinitely superior to a studied or affected one. The peculiar condition of the man is visible in every part of the frame, and the feeling present at the time impressed on the attitude of every limb or muscle, venting itself naturally in an involuntary grace of posture. It bears the image and superscription of nature.

A distinguished art critic has remarked that "the highest art is the imitation of the finest nature;" that is to say, the imitation of that which conveys the strongest sense of pleasure, or power of the sublime or beautiful. The ideal is, therefore, the selecting a particular form which expresses most completely the idea of a given character or quality, as of the beauty, activity, strength, voluptuousness, etc., and which preserves that character with the greatest consistency throughout.



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## LITERARY AND SCIENTIFIC NOTES

**There is a sweeping charge of piracy** levied by Mr. Horsley Hinton against all American photographic magazines. This charge is not true. Articles are copied from English to American magazines, and *vice versa*. The most widely quoted American magazines are, probably, *The Journal of the Photographic Society of Philadelphia*, *Camera Notes*, *American Journal of Photography*, and *Wilson's Photographic Magazine*. This quotation is usually a perfectly legitimate acceptance of a general editorial courtesy.—WILLIAM EDWARD WARD, in *Wilson's Photographic Magazine*.

**The Photo Beacon** treats its readers to a souvenir of the recent Chicago Photographic Salon, exhibiting in half-tone reproductions nearly all the best work displayed. Our esteemed English contemporary, *Photography*, in commenting upon this souvenir speaks of the notable falling off in expression in landscapes, and attributes the inferiority of American to foreign landscape, to the lack of the favorable atmospheric conditions of England. But this can not be the chief reason: some portions of the United States do have that clearness of atmosphere which is fatal to artistic beauty, but the great valley regions of the Middle States, extending from the centre of New York down through Pennsylvania, Maryland and Virginia, is in atmospheric conditions not very dissimilar from the lake regions of England and Scotland, and capable of furnishing scope for artistic selection. And when we consider that the majority of exhibitors who were the leading lights of the Salon, are from this region of country, and learn that they have totally ignored landscape as a means of expression of their artistic individuality, preferring portraiture, in conformity to the dicta of a certain school, now dominant, we naturally infer that either their capacities are limited in the preferred direction, or that their sense of the eternal fitness of things leads them to spare the spectator the horror of having nature in landscape distorted,

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to the extent to which it is necessary to transform the true realistic conception of the human face to what Mr. Hartman calls a "psychological *synthesis*," to escape being turned down.

**"Photography"** suggests the use of acetylene gas at a pinch for making platinum prints or P. O. P. prints. A bicycle lamp, with the jet burning the gas generated from one ounce of calcium-carbide per hour, may be used, but as the reflectors generally used are not properly curved the light is unevenly distributed, and it will be found necessary to move the lamp to equalize the light. Such a lamp, if placed close to a portrait negative, will make a very good vignette without the use of a vignetter. In such a case the lamp is to be kept stationary.

**M. Debiene, by special methods**, has been enabled to extract from the residues of uranium minerals the new substance known as actinium. It resembles thorium but is not identical. By adding a salt of cerium or bismuth to a solution of this substance we can, by the action of ammonium sulphide, eliminate the substance having the radio-active property, thereby proving it to be neither radium nor polonium discovered by M. Curie.

It is possible to produce with the rays emitted by actinium the same phenonoma as those emitted by the other radients.

Under the influence of an intense magnetic field the rays of actinium, or rather a portion of the rays, are deviated and are capable of affecting a sensitive plate situated below a lead cell containing the substance.

Actinium only very feebly provokes the induced permanent radio-activity discovered by Curie on bodies placed in contact or near other radio-active substances.

M. Debiene hopes by further investigation to determine whether the radio-activity of thorium may not be due to the presence of the new substance.

**Our readers intending to go** to the Paris Exhibition will doubtless be interested in seeing what American manufacturers are doing there to represent photographic progress. Of course they will look for the celebrated Eastman Kodak

An insoluble emulsion, coated  
on extra heavy imported stock  
of perfect purity, and giving  
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Company, and they will find it in the Place of Education, Champs de Mars, near the Eiffel Tower, and the Avenue de Suffren., U. S. Section, Group III, Class XII,—and we can assure them that they will be repaid for their visit.

**Signor Sella, the renowned** Alpine photographer, employs the ordinary plate in preference to the isochromatic plate and without the yellow screen, when taking exposures on glaciers. He also uses films. He prefers a rather over than an under exposure, and when the foreground exhibits dark unactinic objects in order to get detail he extends the time to several minutes. He begins his development with pyro and completes it with hydroquinone or eikonogen.

**The British Journal of Photography**, quoting from *Eders' Jahrbuch*, states that ordinary gelatine plates, especially chloro-bromide plates, may be made sensitive to the whole spectrum, by bathing in the following solution and drying quickly:

Erythrosine (1-500).....	2 c.c.m.
Silver nitrate.....	a few drops.
Ammonia.....	0.5 c.c.m.
Chinoline red (1-500).....	1.5 c.c.m.
Cyanine (1-500).....	0.3-0.5 c.c.m.
Alcohol.....	50 c.c.m.
Distilled water.....	50 c.c.m.

The plates so treated will keep only one or two days. The following gives better keeping plates but not so sensitive :

Acridine yellow (sat. alc. sol.).....	5-6 c.c.m.
Chinoline red (1-500).....	1-6 "
Cyanine (1-500).....	0.5-1 "
Alcohol.....	50 "
Distilled water.....	50 "

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## BUSINESS NOTES

**The Blair Camera Company** send us their new catalogue, a neat little book describing their widely known cameras. The new Hawkeye is adapted for daylight loading, and is a very convenient instrument for the tourist.—Rochester, N. Y.

**We have also received the catalogue** of Ross & Co., London, Eng., describing their celebrated lenses—special attention being called to the Symmetric Anastigmats, a lens of high merit at a reasonable price.—111 New Bond St.

**The Panorama Kodak, No. 1**, Eastman Kodak Co., opens a new departure in photographic delights. Not only will it take horizontal views of broad landscapes but also vertical pictures of high water-falls, deep gorges, etc., etc. It is without any complicated mechanism, and the lens is capable of being so managed as to give uniformity of exposure over the whole field and good definition of image. It has a two-speed shutter, a spirit level, and brilliant finder showing the amount of sky and foreground included in the picture. Sample print of what it does sent for two two cent stamps.—Rochester, N. Y.

**The Summer edition of Pennock's Special Bulletin** of Microscopes and Cameras contains a goodly list of instruments, lenses, etc., by the best makers at very low prices. The Bulletin is sent free to any one by addressing Edward Pennock, 3609 Woodland Ave., Phila.

**The Photographic Instruction Text** is the title of a 240 page volume, by George Partridge, published by the Photo Text Press Co., Chicago, Ill.

It is written by an instructor of photography in Lewis' Institute, being a collection of the author's lectures, supplemented by other matter of practical value to the worker.

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### RECENT PATENTS RELATING TO PHOTOGRAPHY

- 652,156. Gas photographing apparatus; Andrew G. Adamson, London, England.
- 652,204. Gas photographing apparatus; Andrew G. Adamson, London, England.
- 652,083. Photographic vignetter; Charles W. Christman, Waterville, Minn.
- 652,174. Magazine plate holder; Hubert J. Erkenswick, Chicago, Ill.
- 651,923. Washing device for photographing negatives; James L. Jenks, Pawtucket, R. I.
- 652,502. Magazine camera; Rudolph C. Becker, Springfield, Ohio.
- 652,714. Consecutive view apparatus; Herman Casler, Canastota, N. Y., assignor to American Mutoscope Company, of New Jersey.
- 652,675. Medalion picture and frame; Millard F. Hatton, Lansing, Mich.
- 652,295. Photographic shutter; Wm. Shakespeare, Jr., and G. W. Low, deceased, M. E. Low, administratrix, Kalamazoo, Mich.
- 652,947. Apparatus for successively representing movable or immovable pictures or advertisements; Moritz Barth, Berlin, Germany.
- 653,146. Developing tray; Stuart B. Moore, New York, N. Y.
- 653,380. Camera for color photography; Wm. N. L. Davidson, Southwick, England.
- 653,579. Coloring photographs; Charles A. Lowe, Bloomington, Ill.
- 653,520. Kinetoscope attachment for stereoscopes; Frank Moniot and L. Garcin, New York, N. Y.

#### TRADE-MARKS

- 34,886, Photographic paper; Platinum Photographic Paper Company, St. Paul, Minn.

#### LABELS

- 7,664. "Miller's Photo Exposometer," for a devise used for photographers; George M. Miller & Company, Hartford, Conn.

Copies of above patents may be obtained for ten cents each, by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.





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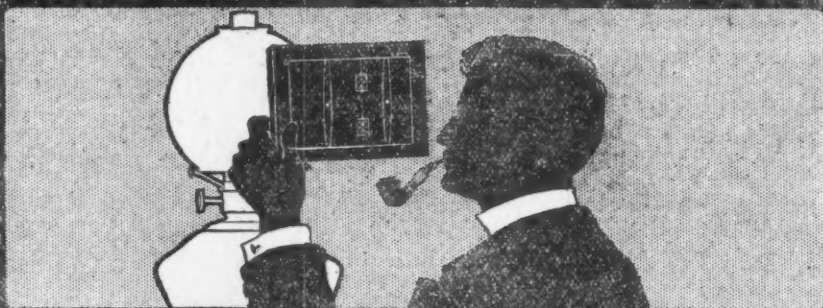
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